

PLANTAE NOVAE AFRICANAE.

"Ex Africa semper aliquid novi."—*Pliny*.

SERIES XVII.

By

PROFESSOR R. S. ADAMSON, PROFESSOR R. H. COMPTON, MISS W. F.
BARKER and MISS P. BOND.**Anthericum palustre** Adamson. (Liliaceae). (§*Trachyandra*.)

Rhizoma breve radicibus pallidis pluribus. *Folia* 9—15, angusta, semiteretia, superne subcanaliculata, 2—3 mm. lata, glabra, basi in vaginam anguste marginatam dilatata, fibris foliorum antiquorum plus minusve persistentibus. *Pedunculi* erecti vel saepius basi decurvati, 20—30 cm. alti, simplices vel pauciramosi. *Racemi* laxi floribus veteribus deciduis. *Pedicelli* tenues, 7—9 mm. longi, apice articulati. *Bractee* triangulares basi dilatatae vel etiam subamplexicaules, apice subulatae, pedicellis duplo vel triplo breviores. *Perianthii* segmenta 9—12 mm. longa, externa angustiora. *Filamenta* staminum muricata. *Fructus* erectus vel adscendens, rotundus at apice paulo depressus et superne leviter trisulcatus, 6 mm. longus, 6—8 mm. latus. *Semina* plurima angulata.

Hab. Wet places with humus soil: peaty swamps and on wet sheltered rocks on the mountains above 2,000 ft. The flowers open about 2.30 p.m. Cape Peninsula: Table Mt. Nursery Buttress, *Compton*: Skeleton Gorge, *Adamson* 2743; Echo Valley, *Pillans*: *Adamson* 2742; Patrys Vlei, *Salter* 8472 (type in Herb. Bolus); *Adamson* 2937, 3025; Sirkel's Vlei, *Adamson* 3084.

A distinct species allied to *A. tabularis* Baker but quite different in habitat, leaf, and bract. The leaves of plants from peat swamps are stiff and erect, from wet rocks soft, drooping and often very long.



FIG. 1. *Anthericum palustre*. 1. Complete plant $\times \frac{1}{2}$. 2. Top of inflorescence $\times 4$. 3. Inflorescence in fruit $\times 4$. (N.B. The sulcation on the fruit is represented too deep.) 4. Bract $\times 20$. 5. Outer perianth segment $\times 8$. 6. Inner perianth segment $\times 8$. 7. Stamen $\times 8$. 8. Ovary and style $\times 8$. (Adamsen 3025.)
Del. M. Walgate.

A. stenophyllum Adamson. (§*Trachyandra*.)

Rhizoma breve, erectum vel horizontale radicibus albis subcarnosis. *Innovationes* vaginas foliorum rumpentes. *Folia* 2—6, saepius 2—3, erecta, tenuia, semiteretia superne plana vel leviter canaliculata, 2 mm. lata, 40—50 cm. longa, basi rubra, in vaginas anguste marginatas dilatata. *Folia primordia* scariosa parva. *Pedunculus* erectus, tenuis, glaber, 50—60 cm. altus, simplex vel superne ramis 1—2 ascendentibus. *Racemi* tenues. *Pedicelli* apice articulati, 2—4 mm. longi, ascendentes, bracteis subulatis basi dilatatis paulo longiores vel subaequantes. *Perianthii segmenta* 6—8 mm. longa, alba, externe rubra. *Stamina* perianthio breviora, filamentis muricatis. *Fructus* sphaericus, purpureus, 5 mm. diametro. *Semina* angulata.

Hab. Heathy sand where moist in winter. Fl. Feb. Cape Peninsula : Smitswinkel Bay, *Adamson* 3128 (type in Herb. Bolus) : base of Paulsberg, *Adamson* 3127 ; Rooihogte, *Adamson* 3154.

In flower and inflorescence most like *A. brachypodum* Baker but quite different in leaf, and usually a much more slender plant. The flowers open one at a time about 3 p.m. Plants coming up after fires are stouter with a more branched inflorescence and leaves 3—4 mm. wide.

A. brachypodum Baker var. **caespitosum** Adamson.

A typo differt : *caulibus* dense caespitosis ; *foliis* sempervirentibus, longioribus, latioribus, 4—5 mm., planis, marginibus vix incrassatis ; *floribus* majoribus.

Hab. Cape Flats : on sand under shelter of trees or bushes. Rare. Fl. Feb. Cape Peninsula : between Rondebosch and Kenilworth, *Adamson* 2789 (type in Herb. Bolus).

Forming dense tufts with the leaves persistent throughout the year. The leaves have strong fibrous ribs but not thickened edges. The flowers open in the late afternoon, 5 p.m., and several at a time.

Cotula pedicellata Compton. (Compositae-Anthemideae.)

Herba annua, molliter pilosa, simplex vel pauciramosa. *Folia* basalia, petiolata, 1—2-pinnatisecta, segmentis linearibus, apiculatis. *Pedunculi* scapiformes, erecti, elongati. *Capitula* solitaria, discoidea. *Involucri bractae* multiseriatae, oblongae ad orbiculatae, apicibus obtusis, membranaceis. *Flores* numerosi, pedicellati, tubulares, bisexuales, steriles fertilesque intermixtae. *Corollae lobi* 4, flavi. *Achaemii* glabri, complanati, scarioso-marginati.

Hab. Cape Province : Van Rhyndorp Division ; a few miles north

of Van Rhynsdorp, *Bond* 1126, 23 July 1941, (type in National Botanic Gardens Herbarium); Klaver, *Compton* 5446, 31 August 1935; *Lavis* in Herb. Bolus 20255, August 1932; Mathews, N.B.G. 1936/31. Clan-

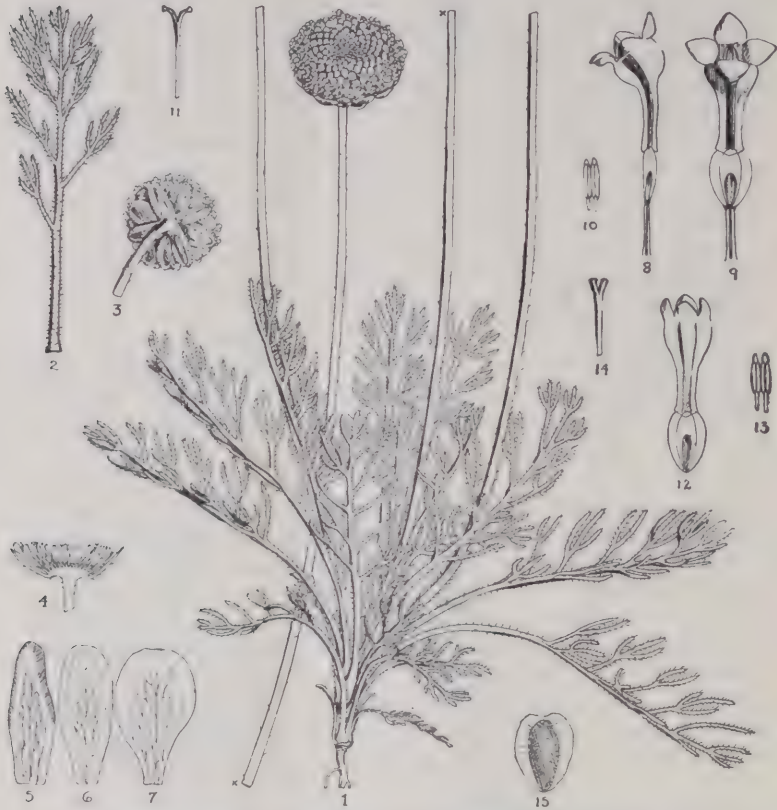


FIG. 2. *Cotula pedicellata*. 1. Plant. 2. Leaf. 3. Capitulum from below. 4. Young capitulum in vertical section. 5, 6, 7. Involucre bracts; 5, outer, 6, median, 7, inner. 8. Outer floret, tangential view, 9. radial view. 10. Stamens. 11. Style. 12. Inner floret, immature, radial view. 13. Stamens. 14. Style. 15. Ripe achene. 1-4, nat. size. 5-7, $\times 3$. 8-15, $\times 6$. (1-14, *Bond* 1126; 15, *Compton* 5446). Del M. Walgate.

william Division; Clanwilliam, *Schlechter* 5055; *Compton* 11005, 20 July 1941.

Description. An annual herb, simple or shortly branching, from a few to about 30 cm. in height. *Leaves* in a sub-basal tuft, up to about 7 cm.

long, softly pilose throughout, the base sheathing with a distinct midrib, the lower half petiolar, the upper half 1—2-pinnatisect, the segments linear, minutely apiculate. *Peduncles* terminal, erect, scape-like, pilose at base with a few scattered hairs throughout, up to 30 cm. long. *Capitulum* solitary, discoid, variable in size up to 25 mm. diam. *Involucre* of numerous imbricate bracts in three or four layers, thinly pilose, the outermost bracts oblong, the innermost orbicular, all obtuse and membrane-tipped. *Florets* very numerous, all pedicellate, the pedicels up to 3 mm. long, all hermaphrodite with good-looking pollen and stigmas: some florets are apparently sterile with a flat elliptical empty ovary, others fertile with an obovate membrane-winged ovary: the latter also having thicker pedicels and corolla tubes than the former: sterile and fertile florets are intermingled. Corolla-tube 1.3 mm. long, with a shortly deflexed basal frill in front and back; the distal portion 2.3 mm. long with four spreading yellow lobes. *Achene* brown, glabrous, flattened, 2.3 mm. long, 1.7 mm. wide, membrane-winged.

A handsome species which occurs in abundance in good seasons in sandy ground near van Rhynsdorp and Klaver. It belongs to the § *Disco-Cotula*, all the florets being hermaphrodite with 4-lobed corollas. It is most closely related to *C. Thunbergii* Harv., and like that species it has many of its florets abortive, not producing achenes though having good-looking pollen and stigmas: its corolla also has a short overhanging basal frill as in that species. (In *Compton* 11005 the frill is larger than in other gatherings.) From *C. Thunbergii*, however, it differs in its greater size in all parts, in having all of its florets markedly pedicellate, and in its membrane-winged achenes.

***Crotalaria lebeckioides* Bond.** (Leguminosae—Genisteae.)

(*Eucrotalaria*—*Mediocriflorae*.)

Fruticulus virgatus. *Folia* trifoliata, longe petiolata. *Foliola* anguste elliptica, obtusa, marginibus parum inflexis. *Racemi* terminales, laxe c. 6—8-floriferi. *Bracteae* bracteolaeque minutae. *Calyx* late cyathiformis, obliquus, segmentibus deltoideis. *Corolla* flava, magnitudine mediocre, in siccitate subfusca; carina rostrata, alae late oblongae, vexillum orbiculare. *Stamina* monadelphia, inaequalia. *Ovarium* stipitatum, c. 9-ovulatum; stylo geniculato. *Legumen* turgidum, puberum.

A small erect shrub about 60 cms. high, virgate, glaucous, with very minute scattered appressed hairs in all parts. *Branches* erect, terete, striate. *Leaves* digitately trifoliolate; petioles erect, slender, slightly channelled, up to 4 cms. long; leaflets spreading, linear to narrowly elliptic, obtuse, margins slightly inflexed, up to 1.5 cm. long and 2 mm. broad, dropping off before the petioles. *Racemes* terminating the branches,

about 10 cms. long, laxly 6—8-flowered; bracts minute. *Pedicels* c. 5 mm. long, minutely bibracteolate just above the middle. *Calyx* c. 5 mm. long; tube broadly cyathiform, oblique; segments subequal, deltoid. *Corolla* bright yellow turning dusky on drying, glabrous; *carina* c. 12 mm. long, acute, rostrate, longer than the oblong alae (c. 10 mm. long, 4 mm. wide), equalling or shorter than the reflexed orbicular vexillum (10—12 mm. long). *Stamens* monadelphous, unequal, 5 longer and stouter

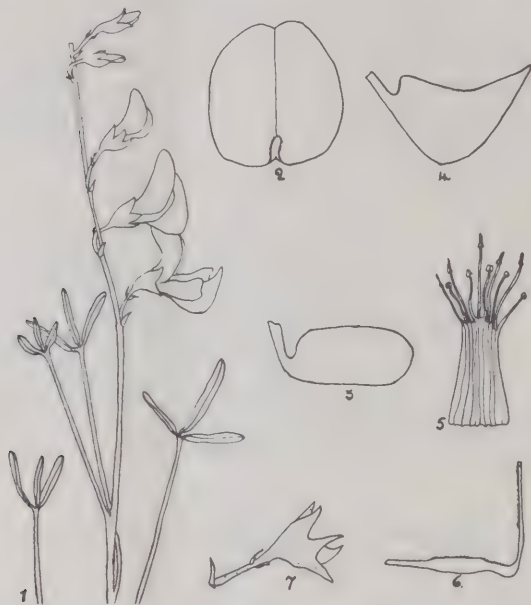


FIG. 6. *Crotalaria lebeckioides*. 1. Branch, nat. size. 2. Vexillum. 3. Ala. 4. Carina. 5. Stamens. 6. Ovary. 7. Calyx. All $\times 2$. (Compton 8733.) Del. P. Bond.

filaments bearing linear anthers, alternating with 5 shorter and more slender filaments bearing ovoid anthers. *Ovary* stipitate, oblong, silky villous along ventral suture, about 9-ovulate; style geniculate, bearded; stigma terminal, minute. *Legume* puberulous, turgid, stipitate, c. 2.5 cm. long and c. 7 mm. broad.

Hab. Cape Province. Ladismith Division: Prins Poort, 4 May 1940, Compton 8733 (Type in National Botanic Gardens Herbarium): same locality and date, Esterhuysen 1813: same locality, 23 September, 1941, Compton 11746 (fruiting).

In habit and foliage this species resembles a *Lebeckia*, but the very swollen fruits put it in *Crotalaria*.

The long petioles, small leaflets, medium-sized flowers, almost glabrous appearance and dusky colour on drying make a very distinctive ensemble of characters.

Erica Esterhuyseniae Compton. (Ericaceae-Ericoideae.)

§ *Ephebus*. Frutex erectus, ramosus, puberulus. *Folia* 3—4-nata, petiolata, lanceolata sulcataque, vel ovata subapertaque, obtusa. *Flores* terminales, aggregati. *Bractea* 1—3, medianae vel subapproximate. *Sepala* angusta, appressa, obtusa, pubescentia. *Corolla* urceolata, pubescens ad hirsuta, segmentis patentibus. *Antherae* inclusae, anguste cristatae. *Ovarium* turbinatum, hispidulum. *Stigma* capitata, inclusa.

Var. α ***tetramera*** Compton.

Folia 4-nata.

Hab. Cape Province : Uniondale Division : Kamanassiberg (Mannetjeberg), alt. 1,700 met., 1 Feb. 1941, *Compton* 10557. (Type in National Botanic Gardens Herbarium) ; same locality and date, *Esterhuysen* 4762.

Var. β ***trimera*** Compton.

Folia 3-nata.

Hab. Cape Province. Oudtshoorn Division : Swartberg Pass, alt. 2,000 met., 28 Jan. 1941. *Bond* 866 (Type in National Botanic Gardens Herbarium) ; same locality and date, *Esterhuysen* 4513, 4772. Ladismith Division ; Klein Swartberg Peak, 2,200 met., *Stokoe* 1768a, 28 December 1928.

Description. A small erect much-branched shrub with densely puberulous stems and leaves. *Leaves* whorled, 3-nate (var. *trimera*) or 4-nate (var. *tetramera*), 2.5—3 mm. long including the well-developed petiole, about as long as the internodes, often with axillary fascicles, from lanceolate and sulcate to ovate and sub-open-backed, erecto-patent, somewhat inflexed, obtuse. *Flowers* in small terminal clusters. *Pedicel* 1.5 mm. long. *Bracts* 1—3, variable in size, median to sub-approximate. *Sepals* linear to lanceolate, 1.5 mm. long, appressed to corolla, obtuse, pubescent. *Corolla* urceolate, 3 mm. long, the segments spreading, pubescent to hirsute. *Stamens* with slender slightly flexuous filaments ; anthers included, 0.7 mm. long, narrow-crested. *Ovary* turbinate, hispidulous ; stigma capitata, included.

These two plants are clearly closely related to one another, and I prefer to regard them as belonging to a single species and to distinguish them on the basis of the number of leaves in the whorl. Both varieties were collected within a few days of one another on the crests of adjoining

mountain ranges, the localities being about 55 miles apart. The two sets of drawings here reproduced represent plants from the two localities and depict some of their variations in feature.

The shape of the leaves varies to some extent, being broadly ovate and sub-open-backed in some of the Swartberg plants (*Bond* 866, *Esterhuysen* 4513), lanceolate and sulcate or slightly open-backed in



FIG. 3. *Erica Esterhuyseniae*. Left: var. *tetramera*. 1. Portion of plant, nat. size. 2, 3. Flowers $\times 5$. 4, 5, 6. Bracts $\times 5$. 7. Sepal $\times 5$. 8. Stamens and Ovary $\times 5$. 9. Stamens $\times 5$. 10. Ovary $\times 5$. 11. Part of branch $\times 2$. 12. Leaf from below $\times 2$. (*Compton* 10557.) Right: var. *trimera*. 1. Portion of plant, nat. size. 2, 3. Flowers $\times 5$. 4. Bracts $\times 5$. 5. Sepal $\times 5$. 6. Stamens and ovary $\times 5$. 7. Stamen $\times 5$. 8. Ovary $\times 5$. 9. Part of branch $\times 2$. 10. Leaf from below $\times 2$. (*Bond* 866.) Del. M. Walgate.

other Swartberg plants (*Esterhuysen* 4772) and in the Kamanassiberg gathering (*Compton* 10557).

The bracts show much variation in form and position in different flowers on the same plant. In some cases three bracts are present, one being 2.0 mm. long, subspathulate, sulcate and approximate, the other two being 0.5—1.0 mm. long and very slender. In other flowers two bracts are present, and in others again only one minute bract occurs.

The degree of hairiness of calyx and corolla varies considerably. The flower pigmentation varies, the corollas of *Esterhuysen* 4772 being recorded as "yellowish," of *Esterhuysen* 4513 as "white to pink," and of *Compton* 10557 as "white."

In the genus *Erica* the number of leaves in the whorl is usually regarded as of considerable significance, and in the Flora Capensis, for instance, Guthrie and Bolus use the 3-nate and 4-nate characters in the primary sub-division of the § *Ephebus*. In *E. Esterhuyseniae*, however, this meristic difference seems to have less systematic importance.

There is a possibility that *E. straminea* Wendl. may be conspecific. Guthrie and Bolus did not see a specimen of this, but adopted the species on the strength of Wendland's "excellent" description and "good" figure. The figure, as compared with *E. Esterhuyseniae*, shows a shorter and broader corolla and a shorter style, and the anther looks different in shape and scabridity: no locality is recorded. It is possible that Wendland's plant was the same as the present species (in which case his figure could not be called "good"), but in the circumstances I prefer to regard it as a distinct plant and to describe *E. Esterhuyseniae* (of which there is abundant material) as new.

***Euryops annuus* Compton.** (Compositae-Senecioneae.)

Herba annua, glabra. *Folia* basalia irregulariter bipinnatifida. *Pedunculi* elongati, erecti, scapiformes. *Involucri bractearum* c. 15, basi concretarum. *Receptaculum* planum, epaleaceum. *Flores radii* c. 13, ligulati, feminei; *disci* numerosi, tubulares, bisexuales. *Stigmata* truncata. *Antherae* exappendiculatae. *Achaenii* squamoso-pubescentes. *Pappi setae* paucae, flexuosae, barbellatae, percaducae.

Hab. Cape Province. Calvinia Division; Vogelstruisvlakte, *Compton* 11138, 26 July 1941. (Type in National Botanic Gardens Herbarium); same locality and date, *Esterhuysen* 5324. Ceres Division; Gansfontein, *Compton* 5427, 26 August 1935; Tanqua Karoo, alt. 500 met., *Compton* 7283, 10 July 1938; Tanqua Karoo near Ymasqua, *Compton* 7924, 7 August 1938.

Description. An annual herb, glabrous throughout, from a few to 30 cm. in height. *Leaves* several in a dense basal tuft, up to 9 cm. long, herbaceous or subsucculent, irregularly bipinnatifid in the distal 2/3, the lobes narrow, obtuse, oval in section, with indistinct veins. *Peduncles* rising from the base of the plant, few, erect or deflexed at the base, slender, terete, rigid, nude, up to 30 cm. long. *Capitula* solitary, erect, variable in size, up to about 4.5 cm. in diameter. *Involucrum* green, the conerescent receptacular base up to 1.5 cm. in diameter, the margins turned up vertically and ending in about 15 acute green lobes



FIG. 4. *Euryops annuus*. 1. Plant, nat. size. 2. Capitula, nat. size. 3. Vertical section of part of capitulum $\times 3$. 4. Involucre scale $\times 5$. 5. Ray floret $\times 5$. 6. Disc floret $\times 5$. 7. Stamens $\times 10$. 8. Stigma $\times 10$. 9. Ripe achene $\times 10$. (Compton 7283.) Del. M. Walgate.

which overlap slightly and are narrowly membrane-edged and without distinct midrib. *Receptacle* flat, slightly honeycombed, without paleae. *Ray florets* about 13, female, ligulate, the free portion up to about 15 mm. long, horizontal, deflexed on fading, bright yellow. *Disc florets* numerous, the corolla tubular below, campanulate above, 4 mm. long, yellow. *Stigmas* truncate, bristly at their tips. *Anthers* without appendages. *Achenes* numerous, about 2 mm. long, cylindrical, obtuse at both ends, densely squamose-pubescent. *Pappus* of a few white flexuous barbellate bristles, about 1.2 mm. long, very caducous.

Euryops annuus is definitely an annual plant: in this respect it differs from all previously described species. The characters of capitulum, pappus, peduncle, leaves, etc. are such as to place it in *Euryops* rather than in any other genus: the only alternative being *Oligothrix*, which includes certain little-known plants of annual habit with a small number of pappus bristles of the *Euryops* type. With *Oligothrix*, however, my plant shows less general affinity than with *Euryops*, and I have little hesitation in choosing the latter genus for its reception.

In 1935 and 1938 a very few of the plants were seen in limited spots in the barren Karoo area through which pass the Doorn and the Tanqua Rivers. Seeds were obtained from which plants were raised at Kirstenbosch, these showing no marked difference from those collected in the wild state, and being also annual in habit.

In 1941, a year of unusually good winter rains in the Western Cape Province, a journey was made through the northern part of this Karoo area in the Calvinia Division, and on this occasion vast numbers of the plants were seen, especially in the Vogelstruisvlakte and near De Bosch, where they formed extensive patches of bright yellow colour. Instead of being a rarity as I had supposed, therefore, *Euryops annuus* is locally a very abundant plant, though it probably only makes an appearance on the large scale in the occasional favourable seasons.

It is remarkable that this plant does not seem to have been previously collected, no specimens of it having been found in the herbaria examined. The explanation probably lies in the remoteness of its habitat which is of a generally unpropitious nature, hindered by bad roads, and the fact that it only flowers in mid-winter in the rare favourable years.

***Heliophila lanceolata* Adamson. (Cruciferae.)**

Annua 10–20 cm. alta, glabra subflaccida, ramosa, ramis patulis ascendentibus. *Folia* integra, lanceolata, 1–2 cm. longa, 2–4 mm. lata, pallida, tenerrima. *Racemi* laxi pauciflori sed primo corymbosi. *Sepala* 2 mm. longa, subaequalia, pallide membranacea apice viridia. *Petala* alba, sepalis duplo longiora. *Stamina* edentata. *Siliqua* patens

vel tandem subdeflexa, 12—15 mm. longa, pedicello 8—12 mm. longo, complanata, moniliformis, in situ seminum 2 mm. lata, inter semina multo distantia 0·5 mm. lata et 1 mm. longa. *Valvulae* indistincte uninnerviae. *Stylus* cylindricus, 1 mm. longus. *Semina* 4—6, ovato-rotunda.

Hab. A short lived annual. In damp places generally at the foot of wet rocks. Fl. Aug.—Sep. Cape Peninsula : Table Mt., southern slopes, *M. Walgate*; Karbonkelberg, *Adamson* 2973 (type in Herb. Bol.); Noordhoek Mts., *M. Walgate*; Glencairn, *Adamson* 1908.

Allied to *H. pusilla* L.f. but differing in leaf, larger flower, and the much more constricted fruit. A smaller plant than *H. pallida* Schltr. and with toothless stamens and different fruits.

***Hermannia intricata* Adamson. (Sterculiaceae.)**

Suffrutex 15—20 cm. alta, ramosa, lignosa, ramis divaricatis intricatis. *Rami* foliaque pilis stellatis rudis obtecta. *Folia* parva, ovata, serrato-incisa, 8—9 mm. longa, 4—5 mm. lata, basi in petiolo 2—3 mm. longo cuneata, stipulis petiolum subaequantibus, acutis, basi latis cordatis. *Flores* binati, axillares, pendentis. pedunculo foliis longiore, bracteis stipuliformibus. *Sepala* ad medium connata lobis acuminatis rubropunctatis. *Petala* sepalis multo longiora, 4—5 mm. longa. *Filamenta* lata membranacea, apice vix angustata, minute hirsuta, antheris apiculatis hirsutis. *Ovarium* prismaticum dense pilosum stylo glabro. *Fructus* viridis, profunde quinesulcatus, apice retusus, 6—7 mm. longus, 4—5 mm. latus.

Hab. Cape Peninsula : Dry slopes among bushes on Little Lion's Head, at 800—1,000 ft. Fl. Aug.—Sep.

Type. Salter (*Adamson* 1901) in Bolus Herb. First collected by Pillans (Bolus Herb.); *Adamson* 2618.

A low growing undershrub with woody zigzag stems. The younger parts roughly hairy. Leaves scattered with the veins prominent on the under side. Flowers small, lemon yellow. Sepals united for half their length. So far only discovered in one locality.

***Hyacinthus paucifolius* Barker. (Liliaceae—Scilleae.)**

Bulbus globosus, diam. 1—1·5 cm. *Folia* 2, patentia, linearia, canaliculata, subacuta, long. 5—10 cm., lat. 3 mm. *Pedunculus* long. c. 3 cm. *Inflorescentia* racemosa, pauciflora : pedicellus inferior long. ad 8 mm. : *bractee* minutae. *Perianthium* lilacinum, long. 12—15 mm. ; *tubum* long. 6—7 mm., diam. 2 mm. ; *segmenta* oblonga, subaequalia, long. 6—8 mm., lat. 2 mm. *Stamina* biseriata, tubo breviora ; *filamenta* long. 1 mm. *Ovarium* oblongum, diam. 1·5 mm. ; *stylus* long. 1 mm.

Hab. Cape Province : Malmesbury Div. : Vredenburg, *J. W. Mathews.*

Nat. Bot. Gdns. Kirstenbosch 689/30 (*type* in Nat. Bot. Gdns. Herb.).
Flowers May.

Description: *Bulb* globose 1—1.5 cm. diam. *Leaves* 2, spreading, linear, canaliculate, subacute, 5—10 cm. long, 3 mm. broad. *Peduncle* about 3 cm. long, the greater part of it underground. *Inflorescence* racemose, usually few flowered: lowest pedicel up to 8 mm. long; bracts minute. *Perianth* 12—15 mm. long; segments lilac, oblong, subequal, 6—8 mm. long and 2 mm. broad; tube shading to white at

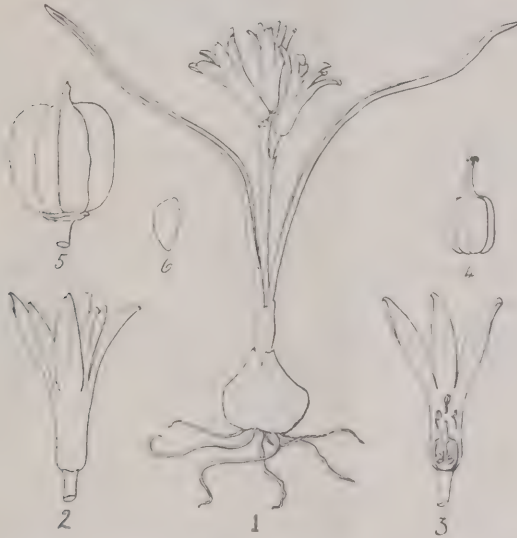


FIG. 5. *Hyacinthus paucifolius* Barker. 1. Plant, nat. size. 2. Flower $\times 2$. 3. Longitudinal section of flower $\times 2$. 4. Gynaecium $\times 4$. 5. Young capsule $\times 4$. 6. Seed $\times 4$. (Mathews, N.B.G. 689/30.) Del. W. F. Barker.

base, 6—7 mm. long, 2 mm. diam. *Stamens* biseriate, shorter than the tube and included in it, filaments very short, 1 mm. long, the lowest ones adnate to the tube about halfway up. *Ovary* oblong 1.5 mm. diam. : style short, 1 mm. long.

Up to the present the genus *Hyacinthus* has been represented in South Africa by the two species *H. corymbosus* Linn. and *H. Gaureri* Baker. As far as is known the latter is not represented in Herbaria but is known only from the figure in Bot. Mag. t. 1468. When it is compared with specimens of *H. corymbosus* they appear to be very closely related, differing mainly in the inflorescence which is corymbose in the

latter and racemose in *H. Gawleri*, but as there appear to be intermediates they may represent extreme forms of the same species. The new species collected by Mr. Mathews differs distinctly from both the previous species in several respects. The leaves are always two in number and not several; the perianth has a distinct tube as long as the segments; the filaments are very short and the stamens are included in the tube, while the style which is very short is also included in it and is shorter than the stamens.

***Leucospermum album* Bond. (Proteaceae.)**

Frutex erectus, c. 2 m. altus. *Folia* sessilia, glabrescentia ovato-elliptica callis apicalibus 1—3, basibus subcordatis. *Capitula* 2—6 glomerata, breviter pedunculata. *Pedunculi* bracteati. *Bractee involucales* breves, ovatae, ciliatae. *Receptaculum* fere planum. *Perianthium* album, infra glabrum, supra villosum. *Antherae* sessiles. *Stylus* rectus, attenuatus, albus. *Stigma* conico-ovoideum.

A much branched erect shrub, up to 2 m. high, with smooth grey bark. *Branches* white pilose, glabrescent. *Leaves* subimbricate, erectopetent, sessile, coriaceous, 3—3.5 cm. long, c. 1.5 cm. wide, ovate-elliptical, with 1—3 apical calluses, rounded or subcordate at base, inconspicuously clothed with soft hairs when young, glabrescent. *Flower-heads* about 2.5 cms. long and wide, in terminal clusters of 2—6, shortly peduncled among the upper leaves; scented, white, with short red, ovate, ciliated involueral bracts. *Peduncles* up to 12 mm. long, slender with imbricating, subacute, villous bracts. *Receptacle* almost flat. *Floral bracts* c. 5 mm. long, lanceolate acuminate, outer surface densely villous, glabrous within; adult *flower buds* c. 12 mm. long; *perianth tube* c. 4 mm. long, glabrous below, villous above; *adaxial and lateral claws* united into a straight slender sheath, at length splitting near the apex; *abaxial claw* free, c. 6 mm. long, *limbs* c. 2 mm. long, deflexed lanceolate, subacute; *anthers* c. 1 mm. long, sessile, elliptic; *hypogynous scales* 4, c. 1.3 mm. long; *ovary* c. 2 mm. long, passing gradually into the style; *style* c. 14 mm. long, white, straight, slender, glabrous; *stigma* c. 1 mm. long, conic-ovoid. *Fruit* c. 9 mm. long, 4 mm. wide, glabrous except for basal tuft of hairs.

Hab. Cape Province. Stellenbosch Division: Gordon's Bay, Mathews N.B.G. 1327/29 (Type in National Botanic Gardens Herbarium); *H. Bolus* 8077; *Lavis* in Herb. Bolus 18536; Steenbras, Middlemost 56 (N.B.G. 2012/26); Steenbras Dam, Middlemost N.B.G. 2010/26; without locality, Guthrie 176.

This species occurs abundantly in a limited area on the seaward slopes of the Hottentots Holland Mountains behind Gordon's Bay and Steenbras



FIG. 7. *Leucospermum album*. 1. Portion of plant, nat. size. 2. Leaf $\times 2$. 3. Inflorescence, nat. size. 4. Long. sect. of inflorescence, nat. size. 5. Outer involucral bract $\times 2$. 6. Middle involucral bract $\times 2$. 7. Inner involucral bract $\times 2$. 8. Outer surface of floral bract $\times 2$. 9. Inner surface of floral bract $\times 2$. 10. Floret and bract $\times 2$. 11. Perianth spread out $\times 2$. 12. Stamen and perianth segment $\times 8$. 13. Gynaecium $\times 2$. 14. Hypogynous scale $\times 2$. (*Mathews*, N.B.G. 1327/29.) *Del.* M. Walgate.

River Mouth. It has been grown for many years in the National Botanic Gardens, Kirstenbosch.

Its affinities are with *L. puberum* and *L. buxifolium*. From the former it differs in its larger size, larger leaves and peduncled flower heads; from the latter in its larger and broader leaves.

This is the only species of *Lencospermum* with white flower heads, and the sweet scent is unusual although not unique in the genus.

Lightfootia tenuis Adamson. (Campanulaceae.)

Caules tenues procumbentes ramosi basi sublignosi. *Folia* opposita vel superiora alterna, linearia, falcata, superne minute canaliculata, marginibus remote dentatis, internodiis breviora, folia infima saepius fasciculis foliorum minorum axillaribus. *Flores* solitarii, pedunculis tenuibus foliis multo longioribus, apice hirsutis. *Sepala* angusta petalis multo breviora. *Petala* basi in tubo lobis triplo breviora connata, tubo lobis calycinis dimidio breviora. *Ovarium* hemisphaericum pilis albis appressis dense hirsutum. *Stylus* superne incrassatus petalis aequilongus.

Hab. Cape Peninsula. Sandy and peaty soils where damp. Valley in hills between Glencairn and Simonstown. Fl. Mar.—Apr. especially after fire. *Adamson* 1684 (type in Bolus Herb.), 2336, 2432; *Salter* 5704; *Levy* 5326, 5615.

Allied to *L. oppositifolia* A. DC. but much more slender with linear curved leaves shorter than the internodes except at the base, hairy ovary, and corolla with tube shorter than the calyx lobes. The plants agree with the description of *L. rubioides* A. DC. but do not agree with the type specimen of that species in the Banks herbarium in the British Museum with which they have been compared by C. Norman.

Stems wiry reddish, the younger parts with short hairs. *Leaves* glabrous with a few blunt teeth on the edges. *Calyx lobes* 2 mm. long. *Corolla* 4—5 fid, white, fading to yellow, purple externally, 2—3 times as long as the calyx, with a tube half as long as the calyx lobes. *Style* as long as the corolla gradually thickened upwards. *Stigma* 3-fid. *Ovary* covered with white appressed hairs except for three green veins which are not symmetrically placed. In dried specimens the hairs often break off leaving only a very short basal portion.

Limonium penicillatum Adamson. (Plumbaginaceae.)

Perennis, laxe subcaespitosa, scaposa. *Rhizoma* lignosum, ramosum, erectum vel suberectum. *Folia* omnia radicalia, erecta, integra, nervosa, apice obtusa vel mucronata, margine plana vel paulo recurvata, petiolata, 3 cm. longa, 1 cm. lata. *Scapus* 12—25 cm. altus, densissime glanduloso-tuberculatus, infra medium ramosus, ramis pernumerosis ascendentibus saepius plus minusve unilaterialibus, densissime corymbosis, ultimis



FIG. 8. *Limonium penicillatum*. 1. Lower part of plant, nat. size. 2. Part of inflorescence, nat. size. 3. Inflorescence branches with spikelets $\times 2$. 4. Flower $\times 3$. 5. Small part of inflorescence axis $\times 20$. (Salter, Witsands.) Del. M. Walgate.

tenuibus, inferioribus sterilibus. *Spiculae* uniflorae. *Bractea* exterior firma, media duplo longior scariosa, interior quam media duplo vel triplo longior viridis acuta, margine pallida scariosa. *Sepala* glabra lobis brevibus subobtusis, petalis breviora. *Stamina* exserta. *Styli* liberi.

Hab. South-west Cape: On rocks or sand near the sea. Cape Div.: Sea Point, *C. Norman* 277; Chapman's Peak, *Adamson* 859 (type in Bolus Herb.), 894, 1598; Muizenberg, *Maude* 58 (as *L. scabrum*); Kalk Bay, *Bolus* 3374; Glencairn, *L. Bolus* (as *L. scabrum*); Simonstown, *Salter* 298 17 (as *L. equisetinum*), *Adamson* 1592; Witsands, *Salter* (Adamson 2796); Vasco da Gama Peak, *Pillans* 8555 (as *L. scabrum*): Cape of Good Hope, *Adamson* 509. Caledon Div.: Hermanus, *Burt-Davy* 18455 (as *L. scabrum*).

Allied to *L. scabrum* and frequently placed under that species in collections. It is distinguished most readily by the dense brush-like flat-topped inflorescence with thin branches. All parts of the inflorescence axis are densely covered by glandular tubercles. The rhizome is longer and more branched than in *L. scabrum*, the leaves thinner and most often persisting at the flowering period. The spikelets are always one-flowered with no trace of a second flower. The bracts are more acute and have a narrower and pale coloured margin. The species does not occur away from the coasts. Fl. Dec.—Mar.

***Myrsine Pillansii* Adamson. (Myrsinaceae.)**

Frutex 2—3 m. alta, ramosa, ramis glabris ascendentibus. *Folia* rhomboidea vel ovato-rhomboidea, petiolata, basi cuneata, apice acuta, minute crenato-serrata, glabra, superne nitida inferne pallida, 3—5 cm. longa, 1—2 cm. lata. *Flores* axillares, 1—3, subsessiles. *Sepala* obtusa, 1 mm. longa, minute ciliata. *Petala* 2—4 mm. longa, acuta, externe hirsuta. *Stamina* petalis breviora, straminea. *Ovarium* rotundatum apice depresso. *Stylus* 2—3 mm. longus stigmatate capitato. In floribus masculis ovarium abortivum minutum adest.

Hab. South-west Cape: Sheltered bushy slopes, 800—1000 ft. Rare. Cape Peninsula: Kirstenbosch on S. side of ridge to Wynberg Hill, *Pillans* 4782 (type in Bolus Herb.), Bolus Herb. 17743. Ravine on E. side of Devil's Peak, *Zeyher*. Stellenbosch: Ida's Valley, *U. Malleson* (Bolus Herb. 17679).

A distinct species with scattered rhombic leaves with a few indistinct teeth in the distal half. Young twigs with glandular dots, the older smooth. Flowers in small separated groups on stalks 1—2 mm. long. *Zeyher's* specimen which is the earliest collecting is without flowers. The species is named in honour of its rediscoverer, N. S. Pillans. Fl. Aug.—Sep.

***Thesium oresigenum* Compton. (Santalaceae.)**

Fruticulus glaber, foliosus. *Folia* linearia, subteretia, integra, apiculata. *Flores* in glomerulis axillaribus. *Bracteae* bracteolaeque foliaceae. *Perianthii segmenta* deltoidea, nuda, breviter cucullata. *Antherae* pilis ad perianthium adhaerentes. *Stylus* medioeris. *Stigma* obtuse sublobatum. *Fructus* globosus.



FIG. 9. *Thesium oresigenum*. 1. Portion of plant, nat. size. 2. Inflorescence in axil of leaf $\times 8$. 3. Flower $\times 8$. 4. Longitudinal section of flower $\times 20$. 5. Stamen on perianth segment $\times 20$. 6, 7, 8. Floral bracts $\times 8$. (Compton 9774.) Del. M. Walgate.

Hab. Cape Province. Worcester Division; Audensberg, near summit, 1800 met., Compton 9774, 6 October 1940, (type in National Botanic Gardens Herbarium); same locality and date, Esterhuysen 3314. Ceres Division; Elands Kloof, Esterhuysen 3312. Piquetberg Division; Great Winterhoek Peak, near summit, 2100 met., Compton 4631, 14 February 1934. Clanwilliam Division; Zuurvleiberg, near summit, 1700 met., Esterhuysen 2553, March 1940.

Description. A small densely leafy glabrous subglaucous shrub with

numerous erecto-patent branches on which the old leaf-bases are prominent. *Leaves* patent or erecto-patent, slightly inflexed, linear, subterete, slightly flattened above, subsucculent, 8—12 mm. long, 0·8—1·0 mm. wide, the margins entire, the vein not prominent, the tip dark-apiculate. *Flowers* numerous in axillary bracteate clusters shorter than the subtending leaves. *Bracts* and bracteoles leaflike, subsucculent, the latter 2·0—2·5 mm. long. *Pedicel* short, lengthening a little in fruit. *Perianth* segments deltoid, 0·9 mm. long, without fringe, beard or papillae, shortly and acutely cucullate. *Disc* 1·0 mm. in diameter. *Anthers* 0·25 mm. long, attached to the perianth by a few hairs which are inserted near the base of the filament and are parallel with it. *Style* 0·5 mm. long. *Stigma* not broader than the style, obtusely sublobate. *Fruit* spherical, lightly wrinkled, 1·5 mm. in diameter.

An inconspicuous but distinctive species, so far only found sparsely among rocks near the summits of high mountains of the Western Cape Province.

***Thoracosperma Bondiae* Compton.** (Ericaceae-Ericoideae.)

Frutex erectus, ramosus. *Folia* 3-nata, erecta, angusta, sulcata, obtusa, glabra, long. 2—3 mm., lat. 0·5 mm. *Flores* 3—5-nata, axillares vel terminales, erecti vel cernui. *Pedicellus* long. 1 mm., minute puberulus. *Bracteae* 3, approximatae, coloratae, ciliolatae, long. 0·7 mm. *Sepala* ovata, colorata, apice sulcata, ciliolata, long. 1·2 mm. *Corolla* rosea, glabra, ovoideo-urceolata, long. 3·5—4·0 mm., segmentis suberectis, long. 0·5 mm. *Antherae* exsertae, fuscae, scabridae, oblongae, bifidae, aristis parvis, scabridis, divergentibus, breviter ad filamentum adnatis. *Ovarium* glabrum, loculis 4, uniovulatis, disco prominente, stylo angusto, longe exserto, stigmatе minuto.

Hab. Cape Province. Oudtshoorn Division: Roodeberg, 1000 met., 24 March 1940. *Bond* 235 (type in National Botanic Gardens Herbarium).

Description. A small erect shrub with numerous slender flexuous branches. *Stems* densely minutely puberulous. *Leaves* 3-nate, the petioles short and gibbous at the base, the lamina erect or appressed, narrow-oblong, flat above, convex and narrowly sulcate below, obtuse, glabrous, 2—3 mm. long, 0·5 mm. wide. *Flowers* numerous in small axillary or terminal clusters of 3—5, erect or cernuous. *Pedicel* minutely puberulous, 1 mm. long. *Bracts* 3, closely approximate, subequal, convex, obtuse, coloured, ciliate, 0·7 mm. long. *Sepals* ovate, coloured, sulcate at the apex, obtuse, ciliate, 1·2 mm. long. *Corolla* rosy, glabrous, ovoid-urceolate, 3·5—4·0 mm. long, the segments short, obtuse, erect or slightly spreading, 0·5 mm. long. *Filaments* slender, 4 mm. long. *Anthers* exserted, 1·5 mm. long, scabrid, dark-coloured, oblong, slightly curved, bifid, the

loculi parallel, the pores small, with two small dark, scabrid, diverging spurs which are shortly adnate to the filament. *Ovary* glabrous, 4-locular, each loculus with a single ovule, the disc prominent, the style 6—7 mm. long, slender, far-exserted, often curved, with a minute stigma.

This new *Thoracosperma* has the largest flowers of any species so far described. Its nearest affinity is perhaps with *T. rosaceum* L. Guthrie from Muiskraal, but it differs therefrom in its larger corolla, anthers and style, its adnate anther-spurs and its glabrous ovary. From *T. Marlothii* N. E. Brown it also differs in its larger corolla, anthers and style.



FIG. 10. *Thoracosperma Bondiae*. 1. Portion of plant, nat. size. 2. Inflorescence and leaves $\times 5$. 3. L. S. flower $\times 5$. 4, 5, 6. Bracts $\times 10$. 7. Calyx and bract $\times 10$. 8, 9. Stamens $\times 10$. 11. Gynaecium $\times 10$. (Bond 235.) Del. M. Walgate.

***Zygophyllum procumbens* Adamson. (Zygophyllaceae.)**

Caules prostrati vel procumbentes, basi solum lignosi, espinosi. *Folia* sessilia, foliola subcarnosa, juvenilia subteretia infra canaliculata, vetera subplana, 1—2 mm. lata, 1—1.5 cm. longa. *Flores* nutantes pedicellis folia aequantibus vel paulo superantibus. *Sepala* submembranacea, obtusa. *Ligulae* staminum filamentis duplo breviores, in apice at lateribus lacerato-serratae. *Fructus* sphaericus, 5—8 mm. diam., viridis, subsucculentus.

Hab. Sand or gravel under bushes at low altitudes. Fl. July—Aug. Cape Peninsula: Muizenberg, M. M. Page; Kalk Bay Mts., Adamson

2879 ; Fish Hoek, *Guthrie* 550 ; Red Hill, *Adamson* 1929 ; Smitswinkel Bay, *Guthrie* ; *E. P. Phillips* 26051 ; Bonteberg, *Adamson* 1813 ; Vasco da Gama Peak, *Salter* 8190 ; *Adamson* 2889 (type in Herb. Bol.), 2887 ; Cape Maclear, *Salter* 7430B ; *G. J. Lewis* ; *Adamson* 1917.

Allied to and hitherto not separated from *Z. spinosum* L. but distinguished from that species by the habit, spineless stems from a woody base, smaller flowers and fruits and especially by the quite different staminal scales.

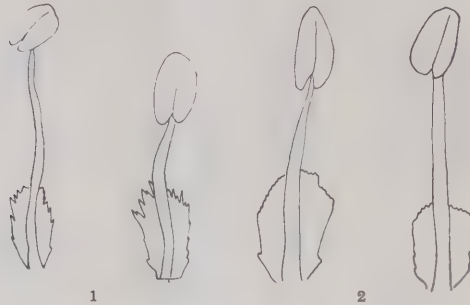


FIG. 11. 1. *Zygophyllum procumbens*, stamens $\times 5$. (*Adamson* 2889.) 2. *Z. spinosum*, stamens $\times 5$. (*Adamson* 3904.) *Del.* M. Walgate.